7. On the Wallaby commonly known as *Lagorchestes fasciatus*. By Oldfield Thomas, Natural History Museum.

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(Plate LIX.)

One of the earliest known of all the Australian Marsupials was the beautiful little banded Wallaby which was discovered in 1804 on the islands in Shark's Bay, Western Australia, by Péron and Lesueur, during their famous voyage round the world, and described by them in 1807 under the name of "*Kangurus fasciatus*"[1].

This species was included by all the earlier writers, with the rest of the *Macropodidæ*, in the single genus then recognized, whether called *Kangurus*, *Macropus*, or *Halmaturus*. In 1842, however, it was placed by Gould, on the authority of the typical specimens in the Paris Museum, in Gray's genus *Bettongia*, although in the same year he described two other specimens of it as "*Lagorchestes albipilis*," thus referring them to the genus made by him just previously for the true Hare-wallabies, of which *Lagorchestes leporoides* is the type.

Gould's two mistakes in referring Péron and Lesueur's species to the Hypsiprymnine genus *Bettongia*, and in separating "*L. albipilis*" from it, were corrected by Waterhouse in his excellent general work on the Marsupials, where the species was described [2] under the name of *Macropus* (*Lagorchestes*) *fasciatus*[3]—an identification accepted by Gould in his 'Mammals of Australia,' where the species is figured as *Lagorchestes fasciatus*, by which name it has since been generally known.

The teeth, as well as the external characters, of *L. fasciatus* were described and figured by Waterhouse, and their differences from those of the true Hare-wallabies noted; but he does not seem to have at all appreciated the importance of these differences, which appear to me to be so great as to compel me, 80 years after the first description of the species, to form a new and special genus for its reception. This genus I propose to call *Lagostrophus*[4].

The differences in dentition between *Lagorchestes* and *Lagostrophus* are not of the trivial and unimportant nature of those characteristic of most of the other genera of this very homogeneous family, but are of a kind to show that *Lagostrophus fasciatus* must have not only different food, but even a different manner of eating it to any of the other members of the subfamily *Macropodinæ*.

On examining the incisors of any of the ordinary Kangaroos and Wallabies (Plate LIX. figs. 8, 9, and 12), we find that the whole set form a widely open curve, and that the sizes and proportions of the

[1] Voy. Terres Austr. i. p. 114, Atl. pl. xxvii.
[2] Vol. i. p. 87 (1846).
[3] Nat. Hist. Mamm. i. p. 87 (1846).
[4] λαγώς, a Hare, and στρόφος, a band or belt.

2.

4.

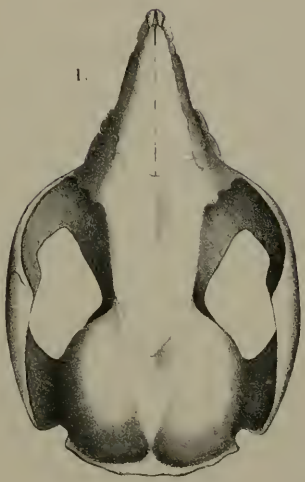
10.

5.

11.

3.

8.



1.

9.

12.

7.

6.

Maud. Horman-Fisher del et lith.

Mintern Bros. imp.

LAGOSTROPHUS FASCIATUS, FIGS. 1—7.
LAGORCHESTES LEPORIDES, FIGS. 8—12.

individual teeth are more or less as follows:—i^1 is the largest of the three, boldly curved forwards, and descending below the level of the other two, its tip sharp and gauge-shaped; i^2 and i^3 are both much smaller than i^1, very narrow transversely, and provided with sharp cutting-edges; of the two, i^3 is nearly invariably the larger. On placing the mandible in position, the large scalpriform lower incisors fit in naturally between the upper ones, not biting vertically upon their edges, but only upon the palate between them (fig. 9). The lower incisors themselves are very uniform in shape, and always provided with sharp cutting-edges along their inner margins (see the section fig. 10), the animals being able, owing to the looseness of the symphysial joint, to separate and approximate these cutting-edges [1], and thus to utilize them as a pair of scissors with which to snip off leaves or grass.

Turning, on the other hand, to *Lagostrophus fasciatus*, we find a very different state of things. First, the two series of upper incisors are close together, meeting at a sharp angle in front and diverging but little behind (fig. 2). Then as to the size of the teeth, i^1, instead of being the largest, is the smallest of the three, at least in cross section, and even vertically it is but little longer than the others (figs. 2 and 6); in shape it is conical, scarcely curved forwards, and with a blunt, rounded or flattened tip. I^2 and i^3 are each longer antero-posteriorly than i^1 and, when looked at externally, have much the same appearance as those of *Lagorchestes*, except that i^2 is longer than i^3, while in *Lagorchestes* and in nearly all other Kangaroos the reverse in this case. But when looked at from below (fig. 2), there appears a very remarkable difference; instead of being narrow and sharp-edged, they are broad and flat-topped, and are evidently not formed for cutting in the true sense at all. The palatal surface of i^2 forms an even oblong, its breadth slightly more than half its length; while the flatness of i^3 is only modified by a broad shallow groove running along its centre, and terminating at its postero-external corner, where it forms a notch on the outer edge of the tooth evidently homologous with that found in a similar position in the other Wallabies.

Trying now the same experiment as before of placing the lower jaw in position, we see at once what a difference the contraction of the incisor series must make in the manner of using them; for the lower incisors, instead of dropping down between the upper ones, come flat upon the top of them, so that there can only be a grinding- and not a cutting-action between the upper and lower teeth.

An examination of the lower jaw of *L. fasciatus* seems to show that this species, and this alone of the *Macropodinæ*, is without the power of using the two rami independently, as the junction between them, instead of being loose and narrow, is broad, close, and firm, the vertical height at the symphysis being so great in proportion to the size of the jaw as to produce a distinct rounded prominence on

[1] See Murie and Bartlett, P. Z. S. 1866, p. 28.